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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,074	09/23/2003	Judson E. Veazey	200205496-1	2708
22879 7590 01/10/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER LUU, CUONG V	
			ART UNIT 2128	PAPER NUMBER
			NOTIFICATION DATE 01/10/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/669,074	Applicant(s) VEAZEY ET AL.	
	Examiner Cuong V. Luu	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/10/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-25 are pending. Claims 1-25 have been examined. Claims 1-25 have been rejected.

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawing, Figure 1, is objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: internal memory 105. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Section 2106 [R-2] (Patentable Subject Matter - Computer-Related Inventions) of the MPEP recites the following:

"In practical terms, claims define nonstatutory processes if they:
- consist solely of mathematical operations without some claimed practical application (i.e., executing a "mathematical algorithm"); or
*- **simply manipulate abstract ideas**, e.g., a bid (Schrader, 22 F.3d at 293-94, 30 USPQ2d at 1458-59) or a bubble hierarchy (Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759), without some claimed practical application."*

An invention which is eligible for patenting under 35 U.S.C. § 101 is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "useful, concrete and tangible result." The test for practical application as applied by the examiner involves the determination of the following factors:

(1) "Useful" - The Supreme Court in Diamond v. Diehr requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished.

(2) "Tangible" - Applying In re Warmerdam, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In Warmerdam the abstract idea of a data structure became capable of producing a useful result when it was fixed in a tangible medium, which enabled its functionality to be realized.

(3) "Concrete" - Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

Claims 1-5 and 11-16, and 21-25 are rejected under 35 U.S.C. 101 for not producing tangible results.

3. Claim 1 is rejected under 35 U.S.C. 101 because the claimed invention does not yield a tangible result. The last limitation of the claim recites calculation of “transaction rate for transactions associated with a non-volatile memory subsystem appropriate for said amount of internal memory”, which does not produce a real world result.
4. Claims 2-5 and 11 inherit the defects of claim 1.
5. Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention does not yield a tangible result. The last limitation of the claim recites calculation of “transaction rate for transactions associated with a non-volatile memory subsystem appropriate for said amount of internal memory”, which does not produce a real world result.
6. Claims 13-16 inherit the defects of claim 12.
7. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention does not yield a tangible result. The last limitation of the claim recites calculation of “transaction rate for transactions associated with a non-volatile memory subsystem appropriate for said amount of internal memory”, which does not produce a real world result.
8. Claims 22-25 inherit the defects of claim 21.

Claims 2-5, 13-16, and 22-25 are rejected under 35 U.S.C. 101 for not producing concrete results.

9. Claims 2-5, 13-16, and 22-25 are rejected under 35 U.S.C. 101 because the claimed invention does not produce concrete results. These claims reciting parameters to be used in an exponential function which is of the form $a+e^{(c+bx)}$ as recited in claim 5, 16, and 25, respectively. In light of the specification on page 4 lines 1-4, parameters a, b, and c are estimated by non-linear regression. This estimation would render variations of parameters a, b, and c at different trials of non-linear regression.

Claims 12-25 are rejected under 35 U.S.C. 101 for claiming non-statutory matter.

10. Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory matter. Claim 12 recites, "a software application for designing a computer system" which directs the claim to claiming software and which is non-statutory matter. Claim 12 is, therefore, rejected.

11. Claims 13-20 inherit the defects of claim 12.

12. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is drawn to non-statutory matter. Even though the claim recites a system in the preamble, its limitations can be interpreted as software which is non-statutory matter. Claim 21 is, therefore, rejected.

13. Claims 22-25 inherit the defects of claim 21.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5, 16, and 25 are rejected under 35 U.S.C. 112, first paragraph.

14. Claims 5, 16, and 25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the parameters a, b, and x in the function $a+e^{(c+bx)}$, does not reasonably provide enablement for the parameter c. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-25 are rejected under 35 U.S.C. 112, second paragraph.

15. Claims 5, 16, and 25 are rejected under 35 U.S.C. 112, second paragraph, for being indefinite. Claims 5, 16, and 25 recites the function $a+e^{(c+bx)}$ but does not tell how its parameters a, b, and c are defined nor related to descriptions of parameters recited in claims 2, 4, 13, 15, 22, and 24 respectively.

16. Claims 1, 12, and 21 are rejected under 35 U.S.C. 112, second paragraph for being indefinite. These recited inventions recite the step of "providing said amount of internal memory to a non-linear exponential function to calculate an input/output (I/O) transaction rate for transactions associated with a non-volatile memory subsystem appropriate for said amount of internal memory" that does not indicate what is/are variable(s) for the exponential function and their relationship with transaction rate.
17. Claims 2-11, 13-20, and 22-25 inherit the defects of claims 1, 12, and 21, respectively.
18. Claims 6 and 17 are rejected under 35 U.S.C. 112, second paragraph for being indefinite. The claimed inventions recite "selecting a number of storage peripherals to support said I/O transaction rate" but do not provide criterion on how to perform the step of selecting. One of ordinary skill in the art can pick an arbitrary number of storage peripherals and claim that they support said I/O transaction rate.
19. Claims 7-10 and 18-20 inherit the defects of claims 6 and 17, respectively.
20. In this instant application, with the degree of indefiniteness and lack of required scope of enablement, claims 1-25 are rejected under 35 U.S.C. 112 first and second paragraphs.

MPEP 2173.06 Prior Art Rejection of Claim Rejected as Indefinite:

All words in a claim must be considered in judging the patentability of a claim against the prior art. In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). The fact that terms may be indefinite does not make the claim obvious over the prior art. When the terms of a claim are considered to be indefinite, at least two approaches to the examination of an indefinite claim relative to the prior art are possible.


First, where the degree of uncertainty is not great, and where the claim is subject to more than one interpretation and at least one interpretation would render the claim unpatentable over the prior art, an appropriate course of action would be for the examiner to enter two rejections: (A) a rejection based on indefiniteness under 35 U.S.C. 112, second paragraph; and (B) a rejection over the prior art based on the interpretation of the claims which renders the prior art applicable. See, e.g., *Ex parte Ionescu*, 222 USPQ 537 (Bd. App. 1984). When making a rejection over prior art in these circumstances, it is important for the examiner to point out how the claim is being interpreted. Second, where there is a great deal of confusion and uncertainty as to the proper interpretation of the limitations of a claim, it would not be proper to reject such a claim on the basis of prior art. As stated in *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), a rejection under 35 U.S.C. 103 should not be based on considerable speculation about the meaning of terms employed in a claim or assumptions that must be made as to the scope of the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cuong V. Luu whose telephone number is 571-272-8572. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah, can be reached on 571-272-2279. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. An inquiry of a general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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